

IN THE CLAIMS:

The status and content of each claim follows.

1-11. (cancelled)

12. (currently amended) A flex-based fuel cell, comprising:

a first flexible circuit; comprising:

a first flexible substrate, and

a porous layer, wherein the porous layer comprises a plurality of pores oriented to distribute fuel to a catalyst using a capillary action; and

a second flexible circuit adjacent the first flexible substrate circuit, wherein the first and the second flexible circuits are conformable to a substantially non-planar shape, and
wherein the first and the second flexible circuits form a channel between the first and
second flexible circuits containing deionized water.

13. (previously presented) The flex-based fuel cell of claim 12, further comprising a proton exchange membrane between said first and second flexible circuits.

14. (canceled)

15. (original) The flex-based fuel cell of claim 12, wherein the substantially non-planar shape comprises a cylinder.

16. (previously presented) The flex-based fuel cell of claim 15, wherein an interior of the cylindrical flex-based fuel cell contains liquid fuel.

17. (original) The flex-based fuel cell of claim 16, wherein the liquid fuel is methanol.

18. (previously presented) The flex-based fuel cell of claim 12, further comprising a dry film adhesive disposed between the first flexible substrate and a second flexible substrate which is part of the second flexible circuit.

19-24. (cancelled)

25. (previously presented) The flex-based fuel cell of claim 12, wherein said porous layer comprises metal.

26. (currently amended) The flex-based fuel cell of claim 12, wherein said catalyst is disposed on said porous layer ~~comprises a catalyst~~.

27. (previously presented) A fuel cell having first and second flexible circuits comprising:

a first flexible substrate comprising an anode;

a porous layer at said anode having pores for distributing fuel to said anode using capillary action;

a catalyst disposed on said porous layer; and
a second flexible substrate comprising a cathode.

28. (previously presented) The fuel cell of claim 27, further comprising a proton exchange membrane disposed between said anode and cathode.

29. (previously presented) The fuel cell of claim 27, further comprising deionized water disposed between said anode and said cathode.

30. (previously presented) The fuel cell of claim 27, wherein said first flexible substrate comprises a plurality of openings for passing fuel to said anode.

31. (previously presented) The fuel cell of claim 27, wherein said second flexible substrate comprises a plurality of openings for passing an oxidant to said cathode.

32. (previously presented) The fuel cell of claim 28, further comprising a passage for flowing recycled water from said cathode to said proton exchange membrane.

33. (previously presented) The fuel cell of claim 27, wherein said first and second flexible substrates are sealed together with an adhesive.

34. (previously presented) The fuel cell of claim 27, wherein said first and second flexible substrates are formed into a cylinder.

35. (previously presented) The fuel cell of claim 34, further comprising a fuel flow through an interior of said cylinder.

36. (previously presented) The fuel cell of claim 34, further comprising an oxidant flow on an exterior of said cylinder.

37. (previously presented) The fuel cell of claim 27, wherein said porous layer comprises a first porous layer disposed on said first flexible substrate and a second porous layer disposed on said second flexible substrate.